1. Project Name: Ofu SBH

2. Date of Inspection: March 10, 2005

3. Inspection Personnel:

	Name	Agency/Office	Telephone No.
a.	Dan Meyers	COE	438-8875
b.	Jessica Hays	COE	438-1680

4. Discussion:

STATION	REACH	COMMENTS
0+00 to 1+74	#1a	Begin ribcap at 1+75
1+74 to 4+00	#1b	Root
4+01 to 6+00	#2	Trunk
6+01 to 6+10	#3	Head

The overall condition of the project is good. The primary damages that remain from Tropical Cyclone Heta in January 2004 are the displaced tribars at the head of the structure. The bedding/underlayer stones that were washed up onto the harbor land area during the cyclone have been either scraped back to the toe of the structure or removed from the area. The breakwater is still functioning well. During this inspection, 6 to 8 foot waves were breaking along the reef in front of the breakwater, but the interior of the harbor remained calm.

Other minor deficiencies, such as tribar separation from the ribcap and cheese block separation, have progressed slightly since the last inspection. However, none of these are of immediate concern. Increased vegetation was noted on the structure between approximately Sta 0+00 to 1+00.

Other deficiencies were as follows:

a. Sta. 0+00 to 0+20, armor stones are missing. A road has been cut thru the project creating a gap. Some of the armor stones are stored adjacent the hillside and OS of the structure. Remove vegetation. (2003 Photo)

b. Sta 0+00 to 1+60, structure and previously washed out fill area adjacent to harborside toe of the structure are heavily vegetated. Perched armor stones on crest noted in January 2004 post-storm inspection report should be replaced to the 0+00 area, and vegetation removed.

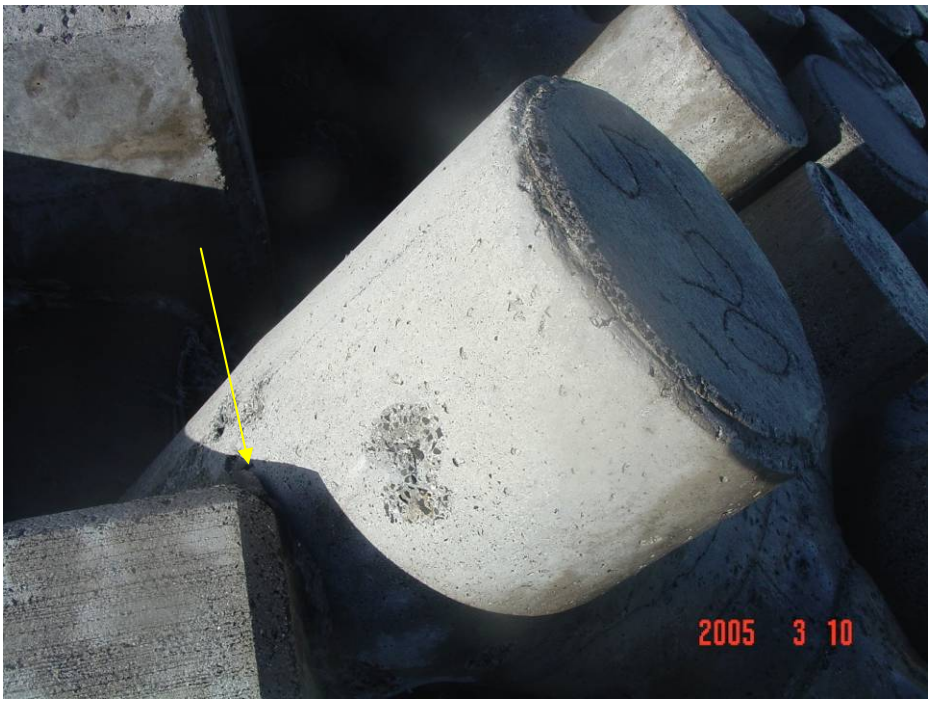
c. Sta 0+00 to 1+60, facing landward. It appears that fill material strewn on land toward harborside of structure after cyclone Heta has been scraped back toward harborside toe of structure.

d. Sta 1+75 to Sta. 4+00, HS, Bedding material displaced from harborside toe during Cyclone Heta has been pushed back toward structure. Concrete pillows are still jumbled and bedding material remains exposed.

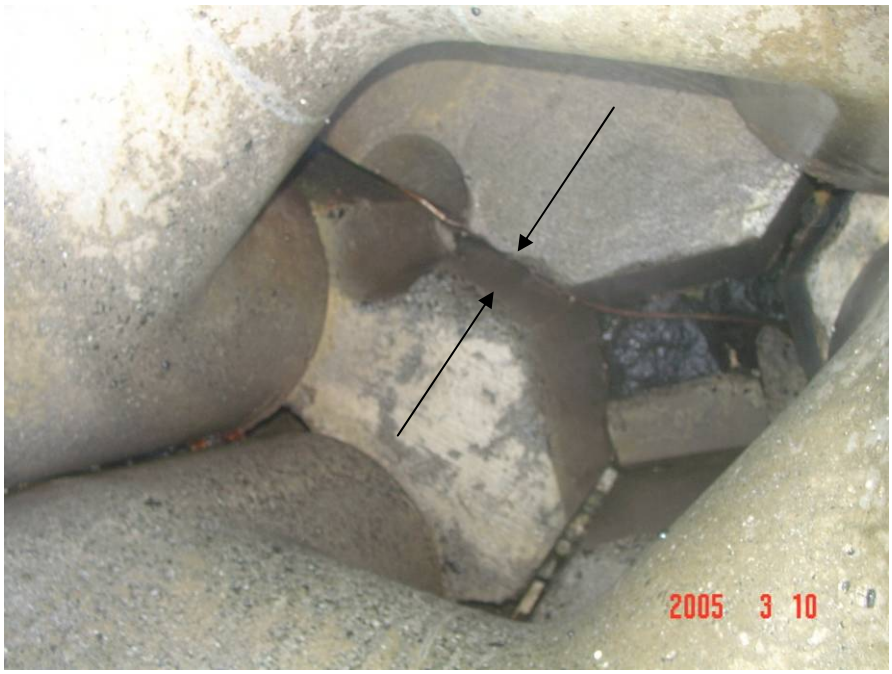
STATION	RIB #	SEPARATION (in)	REMARKS	TRIBAR #
Sta. 1+75	Tie-In			
Sta. 1+81	1			
Sta. 1+87	2	1.5	Tribar/Ribcap gap	838
Sta. 1+93	3			
Sta. 1+99	4			
Sta. 2+05	5			
Sta. 2+11	6			
Sta. 2+17	7			
Sta. 2+23	8			
Sta. 2+29	9			
Sta. 2+35	10			
Sta. 2+41	11			
Sta. 2+47	12	2	Tribar/Ribcap gap	883
Sta. 2+53	13	2	Tribar/Ribcap gap Vegetation starting	517
Sta. 2+59	14	2	Tribar/Ribcap gap	216
Sta. 2+65	15			
Sta. 2+71	16	.25	Tribar/Ribcap gap	161
Sta. 2+77	17			
Sta. 2+83	18			
Sta. 2+89	19		**Begin Cheese Blocks OS, Target # 128A**	
Sta. 2+95	20	4	Tribar/Ribcap gap	88
Sta. 3+01	21			
Sta. 3+07	22	2.5	Tribar/Ribcap gap	647
Sta. 3+13	23			
Sta. 3+19	24			
Sta. 3+25	25	2	Tribar/Ribcap gap	588
Sta. 3+31	26	1	Tribar/Ribcap gap	598
Sta. 3+37	27		MCCP Marker # 125	591
Sta. 3+43	28			
Sta. 3+49	29			
Sta. 3+55	30			
Sta. 3+61	31			
Sta. 3+67	32	2;3	Tribar/Ribcap gap; Cheese Block separation	587; 417
Sta. 3+73	33			
Sta. 3+79	34			
Sta. 3+85	35			
Sta. 3+91	36			
Sta. 3+97	37		**Begin Double Ribs; Begin Cheese Blocks HS**	

			Tribar/Ribcap gap	791
Sta. 4+03	38			
Sta. 4+09	39	1	Tribar/Ribcap gap - **Tribar w/Target 122A**	93
Sta. 4+15	40			
Sta. 4+21	41			
Sta. 4+27	42	1;3	Tribar/Ribcap gap ; Cheese Block Separation	771
Sta. 4+33	43	.5	Tribar/Ribcap gap @ construction joint	779
Sta. 4+39	44			
Sta. 4+45	45			
Sta. 4+51	46			
Sta. 4+57	47			
Sta. 4+63	48	8	Cheese Block Gap	151
Sta. 4+69	49		Chipped Leg on Tribar (Sta 4+66)	151
Sta. 4+75	50			
Sta. 4+81	51		Target # 119A	622
Sta. 4+87	52			
Sta. 4+93	53			
Sta. 4+99	54	3	Cheese Block Separation (Sta 5+02)	
Sta. 5+05	55		MCCP Survey Marker (Sta 5+02)	
Sta. 5+11	56			
Sta. 5+17	57			
Sta. 5+23	58		**Expansion Joint**	
Sta. 5+29	59			
Sta. 5+35	60			
Sta. 5+41	61	.5	Tribar/Ribcap gap	291
Sta. 5+47	62	.5		15
Sta. 5+53	63	4		154
Sta. 5+59	64			
Sta. 5+65	65			
Sta. 5+71	66	4	Tribar/Ribcap gap	678
Sta. 5+77	67	2	Tribar/Ribcap gap	372
Sta. 5+89	68			
Sta. 5+95	69			
Sta. 5+95	70			
Sta. 6+01	71	1	Tribar/Ribcap gap	281
Sta. 6+07	72			
Sta. 6+10	73		Head	

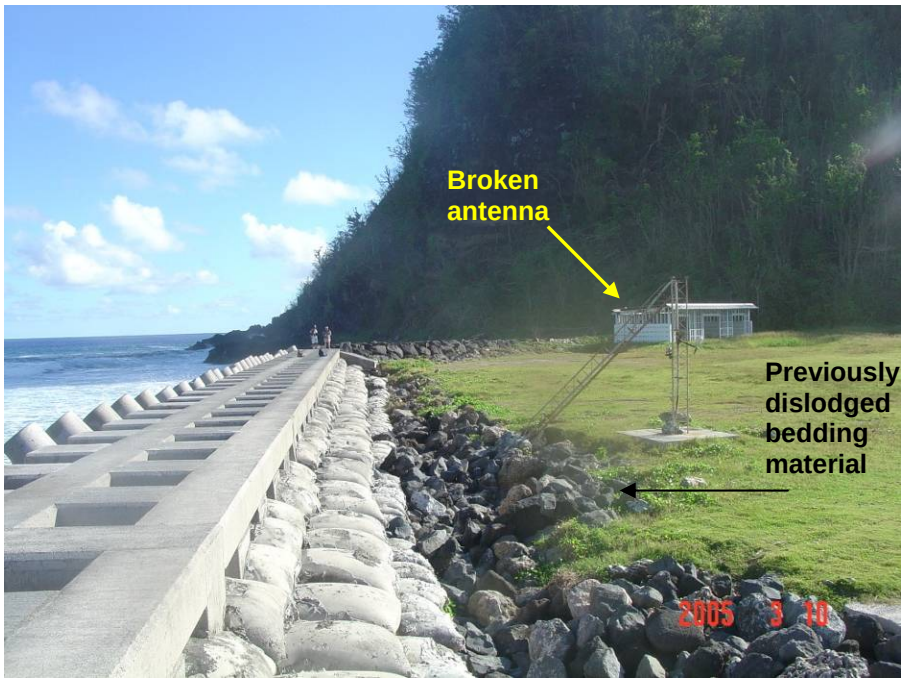
e. Sta 2+47, Rib 12, OS, 2″ separation of tribar #883 from ribcap.



f. Sta. 3+35, Rib # 26 / Tribar # 598, 1 inch separation.



g. Sta. 3+73, OS, 3 in. Cheese block separation beneath Tribar #417

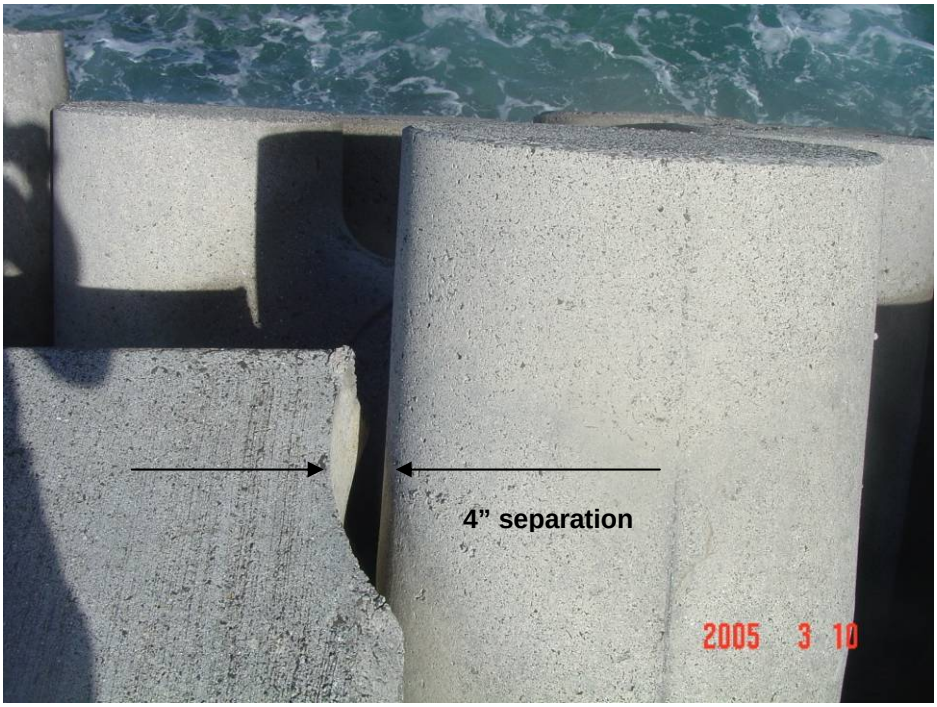


h. Sta. 4+00, Facing landward, note broken antenna and bedding material scraped to toe of structure (Photo for Reference).

i. Sta. 4+33, OS, Rib # 42 / Tribar # 771, 1 inch separation.

j. Sta. 4+39, OS, Rib # 44, Construction Joint (Photo for Reference).

k. Sta. 4+66, OS, Chipped Leg on Tribar # 151.



l. Sta. 5+71, OS, Rib # 65 / Tribar # 678, 4 inch separation.

m. Sta. 6+05, OS, possible dislodged or broken tribar.

n. Sta. 6+10, Head, Approximately 3 tribars have been washed out adjacent to the ribcap.

o. Sta. 6+10, Head, Gap on OS of head from missing tribar. One of the dislocated tribars in background.

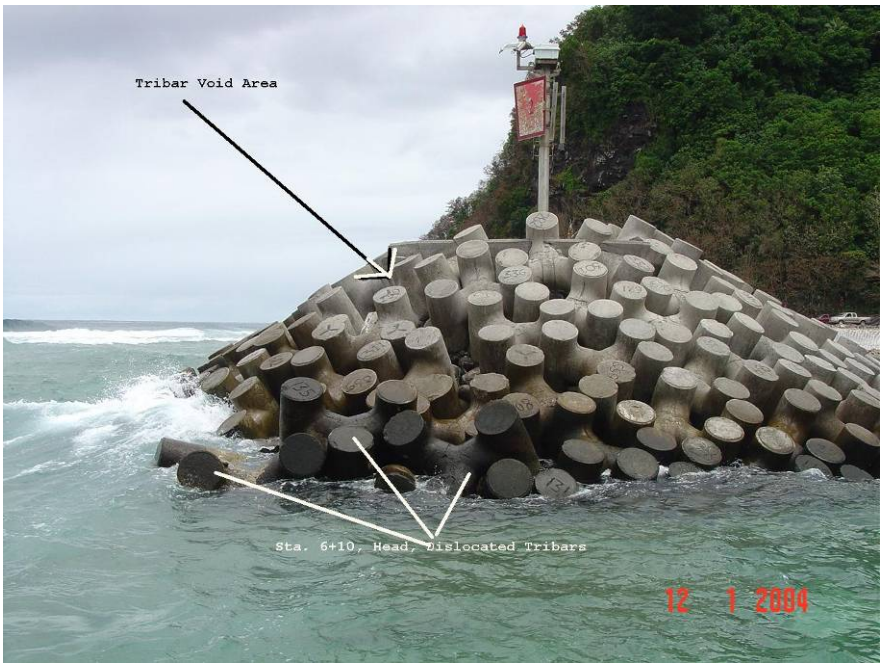
p. Sta. 6+10, Head at centerline, 4 dislocated tribars resting at toe of the structure.

q. Sta. 6+10, OS, Overview of sideslope looking back from head.

r. Sta. 6+10, HS, Overview of sideslope looking back from head.

s. Land area adjacent to breakwater has been cleared of debris and bedding material.

t. Sta 6+10, View of tribar void area at head from water. (2004 Photo)



u. Head, view of displaced tribars and void from water. (2004 Photo)

5. Findings/Conclusions:

No further damage has occurred due to Cyclone Olaf in February 2005. The current structure repair plan for the harbor will adequately address the repairs needed to restore the breakwater. A vegetation control program should be started for the area near the root, and the separation of tribars and cheese block should continue to be monitored.

Signed: _____
Jessica Hays, CEPOH-EC-T

Signed: _____
Jim Pennaz P.E., Ch, CEPOH-EC-T

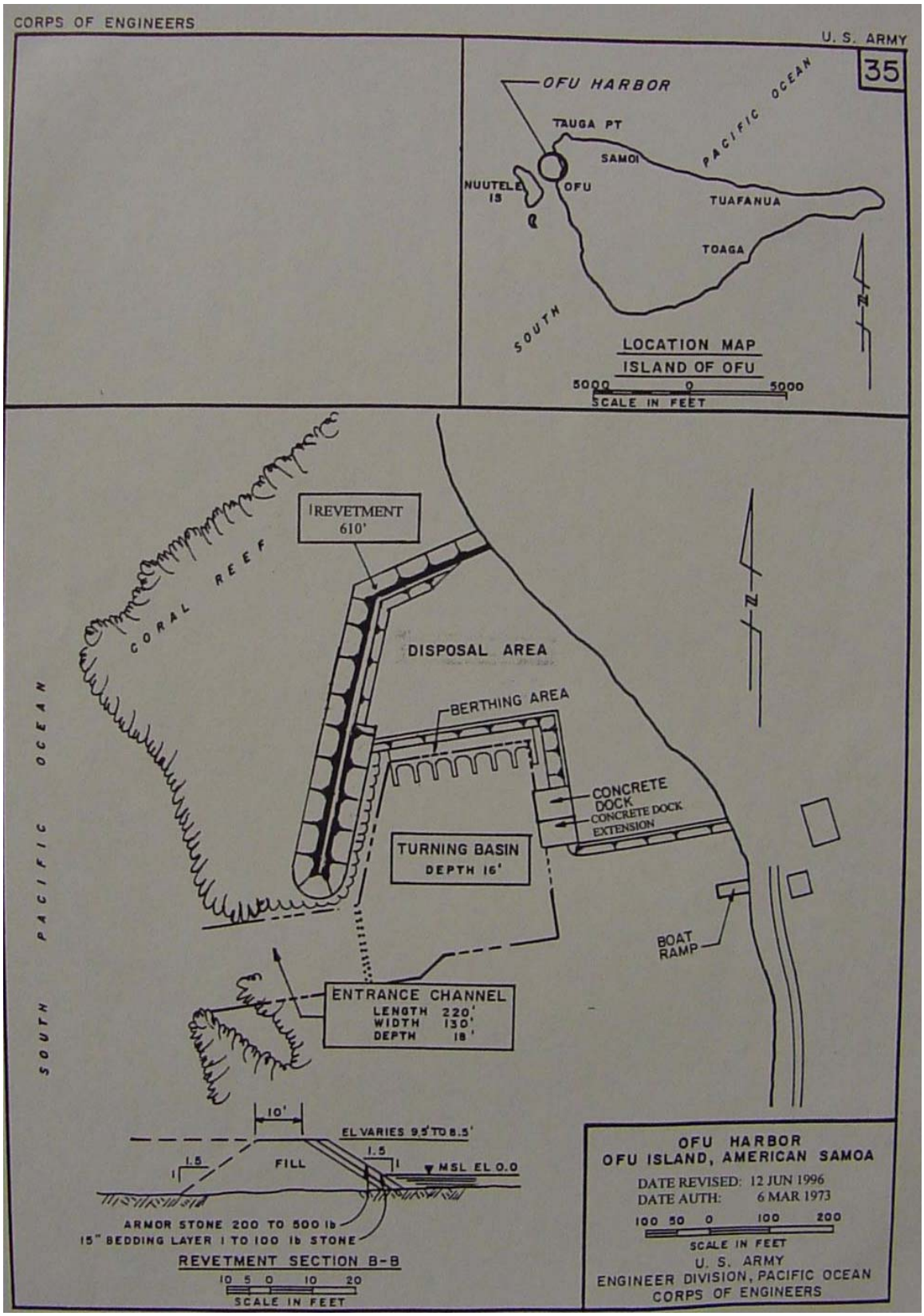
Project Index Map
Additional Photos

Manuatele tugboat at dock inside harbor during inspection; calm conditions inside harbor.

Damages to locally maintained interior revetment at harbor.

Launch Ramp inside harbor.

Damage to non-Federal interior revetment at harbor.


CORPS OF ENGINEERS
U. S. ARMY
35
OFU HARBOR
TAUGA PT
SAMOI
NUUTELE IS
OFU
PACIFIC OCEAN
TUAFANUA
TOAGA
SOUTH
N
LOCATION MAP
ISLAND OF OFU
5000 0 5000
SCALE IN FEET
REVETMENT 610'
CORAL REEF
DISPOSAL AREA
BERTHING AREA
CONCRETE DOCK
CONCRETE DOCK EXTENSION
TURNING BASIN
DEPTH 16'
BOAT RAMP
ENTRANCE CHANNEL
LENGTH 220'
WIDTH 130'
DEPTH 18'
SOUTH PACIFIC OCEAN
10'
EL VARIES 9.5' TO 8.5'
1.5
1
1.5
1
FILL
MSL EL 0.0
ARMOR STONE 200 TO 500 lb
15" BEDDING LAYER 1 TO 100 lb STONE
REVETMENT SECTION B-B
10 5 0 10 20
SCALE IN FEET
OFU HARBOR
OFU ISLAND, AMERICAN SAMOA
DATE REVISED: 12 JUN 1996
DATE AUTH: 6 MAR 1973
100 50 0 100 200
SCALE IN FEET
U. S. ARMY
ENGINEER DIVISION, PACIFIC OCEAN
CORPS OF ENGINEERS

OFU HARBOR, AMERICAN SAMOA

CONDITION OF IMPROVEMENT 30 SEPTEMBER 1993

PREVIOUS PROJECTS: None.

EXISTING PROJECT: Authorized for construction on 6 March 1973 under Section 107 of the River and Harbor Act of 1960, as amended. Provides for a 993 feet long revetment; a 220 feet long entrance channel, 18 feet deep and 130 feet wide; a 2.54-acre turning basin, 16 feet deep; and appurtenant aids to navigation.

PROGRESS OF WORK

Completed and Under Maintenance: The project was completed in 1975. In March 1981, the harbor sustained severe damages by tropic storm "Esau" and repair work was completed in November 1982.

Work Remaining: A contract to repair damages to public facilities caused by Hurricane Ofa in February 1990 and to repair damages to breakwater caused by Hurricane Val in December 1991 was awarded in September 1992 for $1,984,933. Contract is scheduled to be completed in May 1994.

COST OF CONSTRUCTION:

	New Work	Maintenance	Total
Completed Works:			
United States Funds	$915,234	$728,908	$1,644,142
Contributed Funds			
Required	61,953	0	61,953
Other	8,293	0	8,293
Total Costs	$985,480	$728,908	$1,714,388
Uncompleted Works:			
United States Funds		$2,114,000	$2,114,000
Total Estimated Costs		$2,114,000	$2,114,000

RANGE OF TIDES: The range of tide is between mean higher water and lowest tide expected is 5.7 feet.